MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
SUSAN JOHNSON
Machine Id
[SUSAN JOHNSON] 007 569359-7
Component
Port Genset
Fluid
CHEVRON DELO 400 XLE 15W40 (7 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

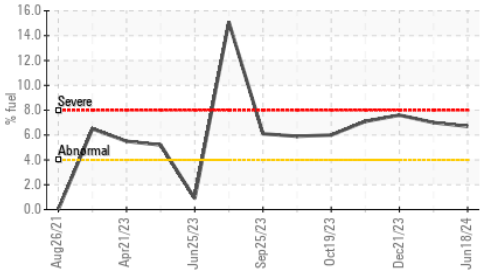
There is a moderate amount of fuel present in the oil.

FLUID CONDITION

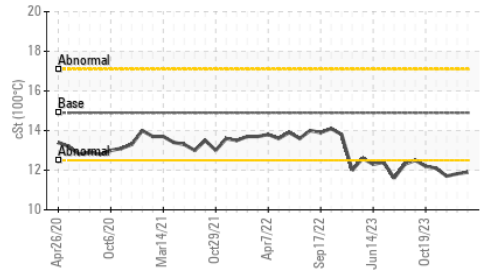
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0058676	MW0064768	MW0058681
Sample Date		Client Info		18 Jun 2024	11 May 2024	21 Dec 2023
Machine Age	hrs	Client Info		13268	12876	12499
Oil Age	hrs	Client Info		348	391	447
Filter Age	hrs	Client Info		348	391	447
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>50	8	11	9
Chromium	ppm	ASTM D5185m	>4	0	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		12	13	12
Silver	ppm	ASTM D5185m	>5	0	0	<1
Aluminum	ppm	ASTM D5185m	>12	2	2	2
Lead	ppm	ASTM D5185m	>17	0	0	2
Copper	ppm	ASTM D5185m	>70	<1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	2
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	4	4	4
Potassium	ppm	ASTM D5185m	>20	4	4	4
Fuel	%	ASTM D3524	>4.0	▲ 6.7	▲ 7.0	▲ 7.6
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.3	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.4	9.8	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.9	18.7	18.5
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		3	3	3
Boron	ppm	ASTM D5185m		83	59	71
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		34	29	27
Manganese	ppm	ASTM D5185m		<1	<1	1
Magnesium	ppm	ASTM D5185m		671	680	701
Calcium	ppm	ASTM D5185m		1483	1470	1518
Phosphorus	ppm	ASTM D5185m	760	763	706	736
Zinc	ppm	ASTM D5185m	830	857	799	819
Sulfur	ppm	ASTM D5185m	2770	3530	3367	3537
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	14.6	14.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	7.4	7.6	7.4
Visc @ 100°C	cSt	ASTM D445	14.9	▲ 11.9	▲ 11.82	▲ 11.7

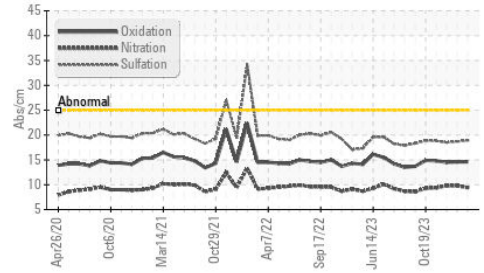
Fuel Dilution



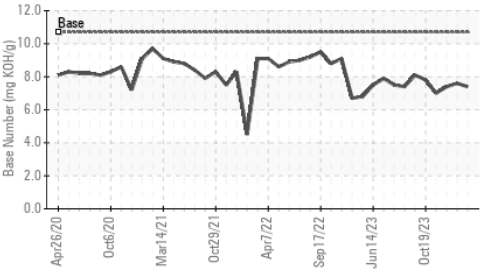
Viscosity @ 100°C



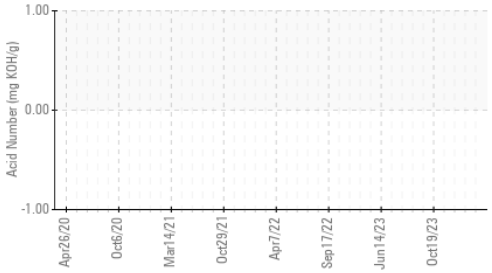
FT-IR (Direct Trend)



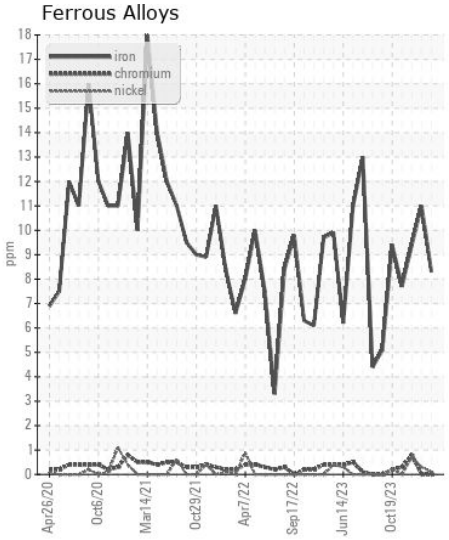
Base Number



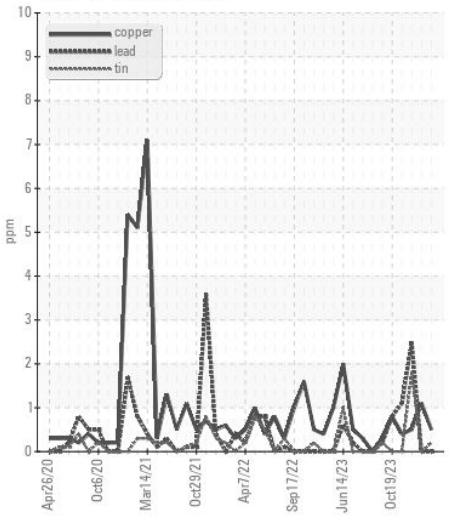
Acid Number



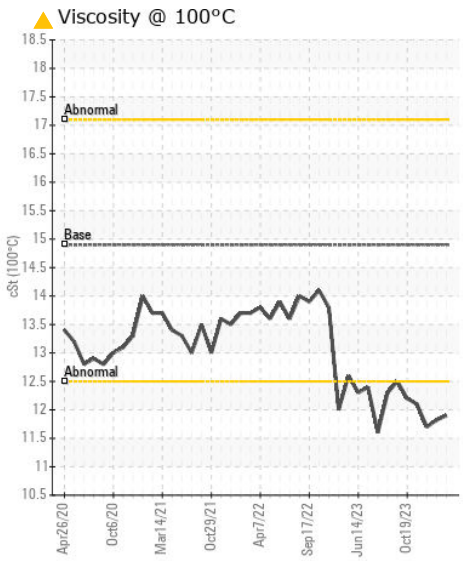
Ferrous Alloys



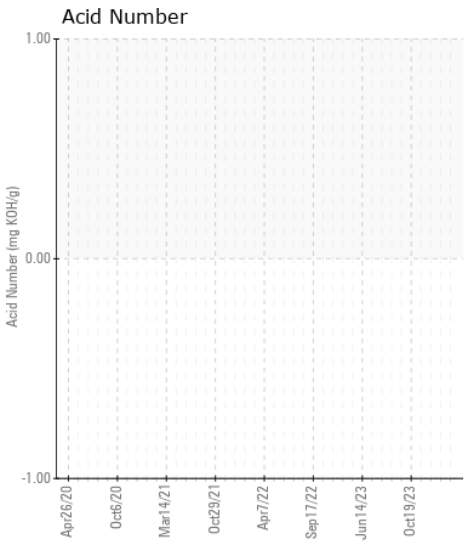
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0058676 **Received** : 21 Jun 2024
Lab Number : 06217494 **Tested** : 26 Jun 2024
Unique Number : 11090358 **Diagnosed** : 26 Jun 2024 - Jonathan Hester
Test Package : MAR 2 (Additional Tests: PercentFuel, TAN Man)

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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